

CLAIMS:

1. Method for encoding a stream of input words into a stream of code words using a channel code for storage of the stream of code words on a recording medium comprising tracks for storage of the stream code words comprising the steps of:

- 5 - coding the stream of input words into the stream of code words characterized in that the method comprises the following steps
- determining a control point in the data stream of input words or the stream of code words where the data stream of input words or the stream of code words can be altered by an alteration.
- 10 - for each alteration of a group of N possible alterations determining, between a group of code words in a first track and a group of code words in a second track which is adjacent to a third track which is adjacent to the first track, a crosstalk value representing the cross talk affecting the third track corresponding to the alteration.
- Selecting an optimum alteration, where the optimum alteration is that
- 15 alteration from the group of N alterations which has a lowest cross talk value,
- Altering the data stream using the optimum alteration.

2. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 1

20 characterized in that $N = 2$.

3. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 2

characterized in that the control point is a bit insertion point.

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4. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 1 or 2

characterized in that the control point is a code word replacement point.

5. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 1, 2, 3 or 4, characterized in that the control point is determined in the stream of input words.

5 6. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 1, 2, 3 or 4, characterized in that control point is determined in the stream of code words.

7. Method for encoding a stream of input words into a stream of code words
10 using a channel code as claimed in claim 1, 2, 3, 4, 5 or 6 characterized in that a crosstalk value is determined calculating a digital sum value of an exclusive NOR operation performed bitwise on the group of code words in the first track and the group of code words in the second track.

15 8. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 1, characterized in that the group of code words in the first track is limited to a section of the first track and that the group of code words in the second track is limited to a section of the second track and that the section of the first track is aligned perpendicular to a reading
20 direction of the first track with the section of the second track.

9. Method for encoding a stream of input words into a stream of code words using a channel code as claimed in claim 8, characterized in that the bitwise exclusive NOR function includes a weighing function
25 reflecting a physical distance.

10. Encoder for encoding a stream of input words into a stream of code words using a channel code for a recording medium comprising tracks for storage of the stream of code words
30 comprising coding means for encoding the stream of input words into a stream of code words characterized in that the encoder further comprises

- Control point alteration means with an input for receiving a data stream and an output connected to the encoding means where the control point alteration means is operative

to determine a control point in the data stream at the input where the data stream can be altered and to alter the control point an alteration instruction received on a alteration instruction input.

- crosstalk determination means with an input connected to the output of the
5 encoding means and an output operative to determine a first crosstalk value for a first control point alteration and a second crosstalk value for a second control point alteration,
- Selection means operative with an input connected to the output of the crosstalk determination means and an output connected to the alteration instruction input operative to select a control point alteration corresponding to the lowest crosstalk value of the
10 first crosstalk value and the second crosstalk value.

11. Encoder according to claim 10, characterized in that the crosstalk determination means is operative to process a group of code words in a first track of the recording medium and a group of code words in a second track of the recording medium
15 which is adjacent to a third track of the recording medium which is adjacent to the first track of the recording medium when determining a crosstalk value representing the cross talk affecting the third track.

12. Recording device comprising the encoder as claimed in claim 10 or 11.
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13. Recording medium comprising tracks comprising a stream of code words, characterized in that the stream of code words comprises a first data block in a first track and a control point corresponding to the first data block, the control point having a value, where the value is based on a cross talk between the first data block in a first track and a second data
25 block in a second track, where the second track is adjacent to a third track which is adjacent to the first track.